

In re: Gary G. Churan
Serial No.: 10/751,715
Filed: January 5, 2004
Page 15 of 19

REMARKS

Applicant appreciates the continued examination of the present application that is reflected in the non-final Official Action of December 22, 2005. Applicant also appreciates the Examiner's indication that Claims 23-27, 30, 31, 57-61, 64 and 65 would be allowable if rewritten in independent form. These claims have not been rewritten in independent form, however, because Applicant respectfully submits that all of the pending claims are in condition for allowance. Independent Claims 1, 10, 36 and 45 have been amended to further clarify that the GPS data is transmitted terrestrially over a satellite frequency band that is outside a GPS frequency band, by incorporating the recitations of dependent Claims 9, 16, 44 and 50 therein, and these dependent claims have been canceled. Applicant respectfully submits that all of the pending claims are patentable for the reasons that now will be described. For the convenience of the Examiner, the following analysis will proceed in the order in which the claims were addressed in the Official Action of December 22, 2005.

Claims 10, 15 and 45 Are Not Anticipated by U.S. Patent 5,594,780 to Wiedeman et al.

Claims 10, 15 and 45 stand rejected under 35 USC §102(b) as being anticipated by the Wiedeman et al. However, independent Claim 10 recites:

10. A terrestrial wireless network for a cellular wireless communications system comprising:
a plurality of terrestrial base stations that are configured to transmit wireless communications including global Positioning System (GPS) data to mobile terminals over a satellite frequency band that is outside a GPS frequency band. (Emphasis added.)

As noted above, Claim 10 has been amended to clarify that terrestrial base stations transmit GPS data over a satellite frequency band that is outside a GPS band.

The Official Action cites Wiedeman et al. Column 2, line 65-Column 3, line 49. However, Applicant respectfully submits that there is no description or suggestion in this passage to transmit GPS data terrestrially over a satellite frequency band that is outside a GPS frequency band. In the interest of brevity, this lengthy passage will not be reproduced herein.

Similar analysis applies to method Claim 45. Claim 15 is patentable at least per the patentability of independent Claim 10 from which it depends.

In re: Gary G. Churan
Serial No.: 10/751,715
Filed: January 5, 2004
Page 16 of 19

Claims 17, 21, 51 and 55 Are Not Anticipated by U.S. Patent 6,208,297 to Fattouche et al.

Claims 17, 21, 51 and 55 stand rejected under 35 USC §102(e) as being anticipated by Fattouche et al. However, Claim 17 recites:

17. A mobile terminal comprising:
a receiver that is configured to receive wireless communications including Global Positioning System (GPS) data over a satellite frequency band that is outside a GPS frequency band; and
a processor that is configured to perform pseudo-range measurements using the GPS data that is received over the satellite frequency band that is outside the GPS frequency band. (Emphasis added.)

The Official Action cites Fattouche et al., Column 5, line 46-Column 6, line 23. However, although this section of Fattouche et al. provides definitions for a mobile receiver, a reference receiver, reference information, location information, a third receiver and a base station transmitter, the receipt of GPS data by a mobile terminal receiver over a satellite frequency band that is outside a GPS frequency band is not described or suggested in this passage of Fattouche et al. For at least these reasons, Claim 17 is patentable over Fattouche et al.

Moreover, Claim 21 recites:

21. A mobile terminal comprising:
a receiver that is configured to receive Global Positioning System (GPS) C/A signals from a plurality of GPS satellites; and
a processor that is configured to estimate Doppler shifts in the GPS C/A signals and to estimate received code phases of the GPS C/A signals using the Doppler shifts that are estimated.

Applicant respectfully submits that Fattouche et al. does not describe or suggest a mobile terminal processor that is configured to estimate Doppler shifts in the GPS C/A signals and to estimate received code phases of the GPS C/A signals using the Doppler shifts that are estimated. In particular, the cited passage of Fattouche et al., Column 20, line 3-Column 21, line 38, describes how to estimate Doppler shift at Column 20, line 24 and Column 21, line 25, but does not contain any description of estimating Doppler shifts in the GPS C/A signals or of estimating received code phases of the GPS C/A signals using the Doppler shifts that are estimated, as recited in Claim 21. Indeed, other mentions of Doppler shifts in Fattouche et al. (Column 9, line 19; Column 10, line 11; Column 30, lines 55-62; Column 36, line 21 and Column 37, line 2) do not appear to describe estimating Doppler shifts in the GPS C/A signals and there does not appear to be any description or suggestion to estimate received

In re: Gary G. Churan
Serial No.: 10/751,715
Filed: January 5, 2004
Page 17 of 19

code phases of the GPS C/A signals in Fattouche et al. There certainly does not appear to be any description or suggestion of estimating received code phases of GPS C/A signals using the Doppler shifts that are estimated as recited in Claim 21. For at least these reasons, Claim 21 is patentable over Fattouche et al.

Claims 51 and 55 are patentable for at least the same reasons that were described above in connection with Claims 17 and 21. This analysis will not be repeated for the sake of brevity.

Claims 1-6, 11-15, 36-41 and 46-50 Are Patentable Over Wiedeman et al. In View of U.S. Patent 6,121,928 to Sheynblat et al.

Claims 1-6, 11-15, 36-41 and 46-50 stand rejected under 35 USC §103(a) as being unpatentable over Wiedeman et al. in view of Sheynblat et al. Claim 1 recites:

1. A wireless communications system comprising:
a terrestrial wireless network that is configured to transmit wireless communications including Global Positioning System (GPS) data over a satellite frequency band that is outside a GPS frequency band; and
a mobile terminal that is configured to receive the wireless communications including the GPS data from the terrestrial wireless network over the satellite frequency band that is outside the GPS frequency band and to perform pseudo-range measurements using the GPS data that is received over the satellite frequency band that is outside the GPS frequency band.

As was already noted, Wiedeman et al. does not describe or suggest terrestrially transmitting GPS data over a satellite frequency band that is outside the GPS frequency band. In particular, Wiedeman et al.'s Abstract and Column 4, lines 20-67 do not contain any such description or suggestion of terrestrially transmitting GPS data over a satellite band that is outside a GPS frequency band. Moreover, Sheynblat et al. describes the uses of terrestrial "pseudolites" 100 that appear to use GPS frequencies, and do not appear to transmit GPS data over a satellite frequency band that is outside a GPS frequency band, as recited in amended Claim 1.

Claims 2-6 are patentable at least per Claim 1 from which they depend. Moreover, Applicant respectfully submits that the passages cited in Sheynblat et al. in rejecting Claims 2-6 simply do not describe or suggest the recitations of these claims. These lengthy passages of Sheynblat et al. will not be reproduced herein in the interest of brevity. However, if another rejection is forthcoming, Applicant respectfully requests the Examiner to distinctly

In re: Gary G. Churan
Serial No.: 10/751,715
Filed: January 5, 2004
Page 18 of 19

point out where the recitations of Claims 2-6 are described in Sheynblat et al., rather than citing multi-column passages thereof.

Similar analysis applies to dependent Claims 11-15.

Moreover, as noted in the Official Action, Claims 36-41 and 46-49 are analogous method claims, which are patentable for the same reasons that were described above. This analysis will not be repeated for the sake of brevity.

Claims 7-9, 16, 42-44 and 50 Are Patentable Over Wiedeman et al. and Sheynblat et al., In Further View of U.S. Patent 5,805,200 to Counselman, III

Claims 7-9, 16, 42-44 and 50 stand rejected under 35 USC §103(a) over Wiedeman et al., Sheynblat et al., and further in view of Counselman, III. Claim 7 recites:

7. A wireless communications system according to Claim 1 wherein the mobile terminal is further configured to receive GPS coarse/acquisition (C/A) signals from a plurality of GPS satellites, to estimate Doppler shifts in the GPS C/A signals and to estimate received code phases of the GPS C/A signals using the Doppler shifts that are estimated.

The Official Action concedes that Wiedeman et al. and Sheynblat et al. do not disclose GPS C/A signals. Accordingly, neither Wiedeman et al. nor Sheynblat et al. would describe or suggest any of the recitations of Claim 7. In an attempt to supply the missing teachings, the Official Action cites Counselman, III Column 6, line 12-Column 7, line 34. Indeed, Doppler shifts are described in this passage. However, Column 7, lines 44-52 clearly states:

Differences in Doppler shift are utilized to distinguish the carriers of different satellites. Thus, the powers and carrier phases of the signals from a plurality of satellites are measured simultaneously and numerical data representing the measurement results are obtained at each survey mark. The measurements are performed in real time at each mark without reference to signals that are received at any other place and without knowledge of any of the coded signals that modulate the GPS carriers.
(Emphasis added.)

Accordingly, this passage clearly states that Doppler is not used to estimate received code phases, which is the exact opposite of that which is taught by Claim 7. Accordingly, Counselman, III actually teaches away from the recitations of Claim 7. Claim 7 is, therefore, independently patentable.

Claim 8 is patentable at least per the patentability of Claim 7 from which it depends. Moreover, the additional recitations of Claim 8 are clearly not described or suggested in

In re: Gary G. Churan
Serial No.: 10/751,715
Filed: January 5, 2004
Page 19 of 19

Counselman, III Column 7, line 26-Column 8, line 48. Finally, as to Claim 8, Applicant wishes to note that Counselman, III does not even appear to describe a terrestrial network.

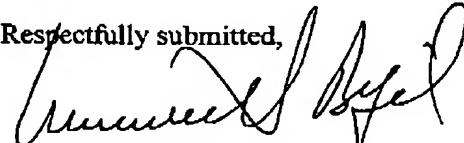
The recitations of Claims 9 and 16 have been incorporated into Claims 1 and 10, respectively, and were already described above. Claims 42 and 43 are analogous method claims and are patentable for the same reasons that were described above. This analysis will not be repeated for the sake of brevity.

Claims 18, 32, 52 and 66 are patentable at least per the patentability of the independent claims from which they depend. Claims 19-20, 22, 28, 53-54, 56 and 62 are patentable for the same reasons that were described above in connection with Claims 7 and 8. This analysis will not be repeated for the sake of brevity. Finally, Claims 29, 33-35, 63 and 67-69 are patentable at least per the patentability of the independent claims from which they depend.

Conclusion

Applicant again appreciates the continued examination of the present application. However, Applicant has now shown that the independent claims are patentable and that many of the dependent claims are separately patentable. Accordingly, Applicant respectfully requests withdrawal of the outstanding rejections and allowance of the present application. Moreover, should any of the rejections be maintained, Applicant respectfully requests the Examiner to identify specific passages of the references that describe or suggest the recitations of the claims, rather than quoting multi-column sections of the references without explanation.

Respectfully submitted,



Mitchell S. Bigel
Registration No. 29,614
Attorney for Applicant

Customer Number 20792
Myers Bigel Sibley & Sajovec, P.A.
P.O. Box 37428
Raleigh, NC 27627
919-854-1400
919-854-1401 (Fax)